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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,416	04/21/2004	Nobuhiro Nakamura	252144US-2 CONT	4529
22850	7590	06/24/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ZIMMERMAN, GLENN	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/828,416

Applicant(s)

NAKAMURA, NOBUHIRO

Examiner

Glenn Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Amendment, filed on May 3, 2005, has been entered and acknowledged by the examiner.

### ***Drawings***

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on May 3, 2005 have been approved.

### ***Information Disclosure Statement***

The information disclosure statement filed February 11, 2005 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-6 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosokawa U.S. Patent 6,538,374.

Regarding claim 1, Hosokawa disclose an organic electroluminescence display **(abstract) element (Fig. 9 ref. 62 or 68) comprising a first conductive layer (upper electrode ref. 20), a second conductive layer (lower electrode ref. 22) opposed to the first conductive layer, a driving circuit (active layer ref. 44 or TFT mentioned in col. 22 lines 49-50) connecting terminal (col. 22 lines 49-50) connected electrically to the first conductive layer via a supplementary wire (auxiliary electrode ref. 18; ref. 17 upper auxiliary electrode or ref. 19 lower auxiliary electrode either of which can be Mo alloy) and an organic electroluminescence layer (organic luminous medium ref. 24) disposed between the first conductive layer and the second conductive layer wherein the supplementary wire has at least one surface layer containing Mo (col. 14 line 37;**

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**col. 14 lines 55 and 56)** or a Mo alloy and a number of supplementary wires is at least 30 (**col. 4 lines 17 and 18**). If you have 2000 pixels then one will have 2000 supplementary wires. The examiner points out that the reference to col. 22 lines 49-50 above must relate to the auxiliary electrode ref. 18 (17, 19), as the steps previous have already installed the anode (lower electrode) (col. 22 lines 29-32) and the auxiliary electrode and main electrode are formed after. This cannot be the contact hole ref. 54 or the connection portions ref. 28, as they are already covered by the anode. It is quite clear that the auxiliary electrodes are connected electrically to the connecting terminals of the TFTs.

Regarding claim 2, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the first conductive layer is connected (**col. 4 lines 62-63**) to the layer containing Mo or a Mo alloy.

Regarding claim 4, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the supplementary wire has a layer made of Al, an Al alloy, Ag or an Ag alloy (**col. 11 lines 66 and 67; col. 11 line 62; col. 14 lines 32-37**). The examiner notes that in the information on column 11 that Mo is not chosen for the upper electrode but rather Cr and other. The examiner notes that Cr is in the list of various metals used for the auxiliary electrode 18 which is ref. 17 and 19. Therefore choose Mo from the list in column 14 and replace the Cr of column 11 with Mo.

Regarding claim 5, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein the first conductive layer is connected to an etched surface of the layer containing Mo or a Mo alloy (**col. 14 line 37; col. 14 lines**

**55 and 56).** The examiner notes that in the information in column 11 that Mo is not chosen for the upper electrode but rather Cr and other. The examiner notes that Cr is in the list of various metals used for the auxiliary electrode 18, which is ref. 17 and 19. Therefore choose Mo from the list in column 14 and replace the Cr of column 11 with Mo. In col. 12 line 1, the Cr is etched. Choosing Mo as the upper auxiliary electrode Mo is etched to make the various shapes of Figures 15-16.

Regarding claim 6, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein a portion of the first conductive layer connected to the layer containing Mo or a Mo alloy, is defined by an insulation film **(electrically insulating film ref. 25 or ref. 21 sealing medium ref. 21 or sealing member ref. 58; col. 19 lines 66 and 67 and col. 20 lines 1-8 choose silica or alumina).**

Regarding claim 10, Hosokawa disclose the organic electroluminescence display element according to claim 1, wherein a portion of the first conductive layer connected **(ref. 16)** to the supplementary wire contains Al or an Al alloy **(col. 13 lines 37-41 choose aluminum; the examiner notes that ref. 18 can touch the top or bottom of ref. 16 see Fig. 1 or Fig. 7,8).**

Regarding claim 11, Hosokawa et al. U.S. Patent Application Publication 2002/0158835 A1 disclose an organic electroluminescence display element **(abstract)** comprising a first conductive layer **(upper electrode ref. 20)**, a second conductive layer **(lower electrode ref. 22)** opposed to the first conductive layer, a driving circuit connecting terminal connected **(active layer ref. 44 or col. 22 lines 49-50 TFTs)** electrically to the first conductive layer via a supplementary wire **(auxiliary electrode**

**ref. 18; ref. 17 upper auxiliary electrode or ref. 19 lower auxiliary electrode either of which can be Mo alloy) and an organic electroluminescence layer (organic luminous medium ref. 24) disposed between the first conductive layer and the second conductive layer, wherein the supplementary wire comprises at least 3 layers (plural layers col. 14 lines 55 and 56; choose 3 or see Fig. 16(e)) including a layer containing Mo or a Mo alloy (auxiliary electrode ref. 18; ref. 17 upper auxiliary electrode or ref. 19 lower auxiliary electrode either of which can be Mo alloy) as a surface layer and a layer containing Al or an Al alloy formed below the surface layer (choose Al as the lower auxiliary electrode Al or an Al alloy col. 11 line 62 or choose the lower layers in the laminate of col. 14 lines 55 and 56 to be aluminum or aluminum alloy), and a number of supplementary wires is at least 30 (col. 4 lines 17 and 18). If you have 2000 pixels then one will have 2000 supplementary wires.**

Regarding claim 12, Hosokawa disclose an organic electroluminescence display **(abstract)** device comprising the organic electroluminescence display element described in claim 1 and a driving circuit **(abstract; tft)** for driving the organic electroluminescence display element.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa U.S. Patent 6,538,374 in view of Yamazaki et al. U.S. Patent 6,420,834.

Regarding claim 3, Hosokawa teaches all the limitations of claim 3, but fails to teach wherein the second conductive layer is made of ITO. Yamazaki et al. in the analogous art teaches wherein the second conductive layer is made of ITO (**ref. 104; col. 3 lines 64-65; col. 17 line 34**). Additionally, Yamazaki et al. teaches incorporation of such an ITO second conductive layer to improve transparency of the pixel electrode (**col. 3 lines 61 and 62**) for emission toward the substrate and provide for a working conducting material for the pixel electrode (**col. 3 lines 61 and 62; col. 17 line 34**).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use ITO in the secondary electrode of lower electrode of Hosokawa, since such a modification would transparency of the pixel electrode for emission toward the substrate and provide for a working conducting material for the pixel electrode as taught by Yamazaki et al.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa U.S. Patent 6,538,374 in view of Codama et al. U.S. Patent 6,114,805.

Regarding claim 7, Hosokawa teaches all of the limitations of claim 7, but fails to teach wherein the Mo alloy contains Nb. Codama et al. in the analogous art teaches wherein the Mo alloy contains Nb (**col. 8 lines 39-47; col. 8 line 30**). Additionally, Codama et al. teaches incorporation of such a Mo alloy contains Nb to improve the thin film resistance of interconnection electrode (**col. 8 lines 30-50**) and provide a working interconnection electrode. Note choose an Mo alloy with Nb where is 10% at%



Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use wherein the Mo alloy contains Nb in the auxiliary electrode of Hosokawa, since such a modification would improve the thin film resistance of interconnection electrode and provide a working interconnection electrode as taught by Codama et al.

Regarding claim 8, Codama discloses wherein the content of Nb in the Mo alloy is 5 to 20 atomic %. This claim is rejected for the same reasons found in claim 7.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-8 and 10-12 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Glenn Zimmerman


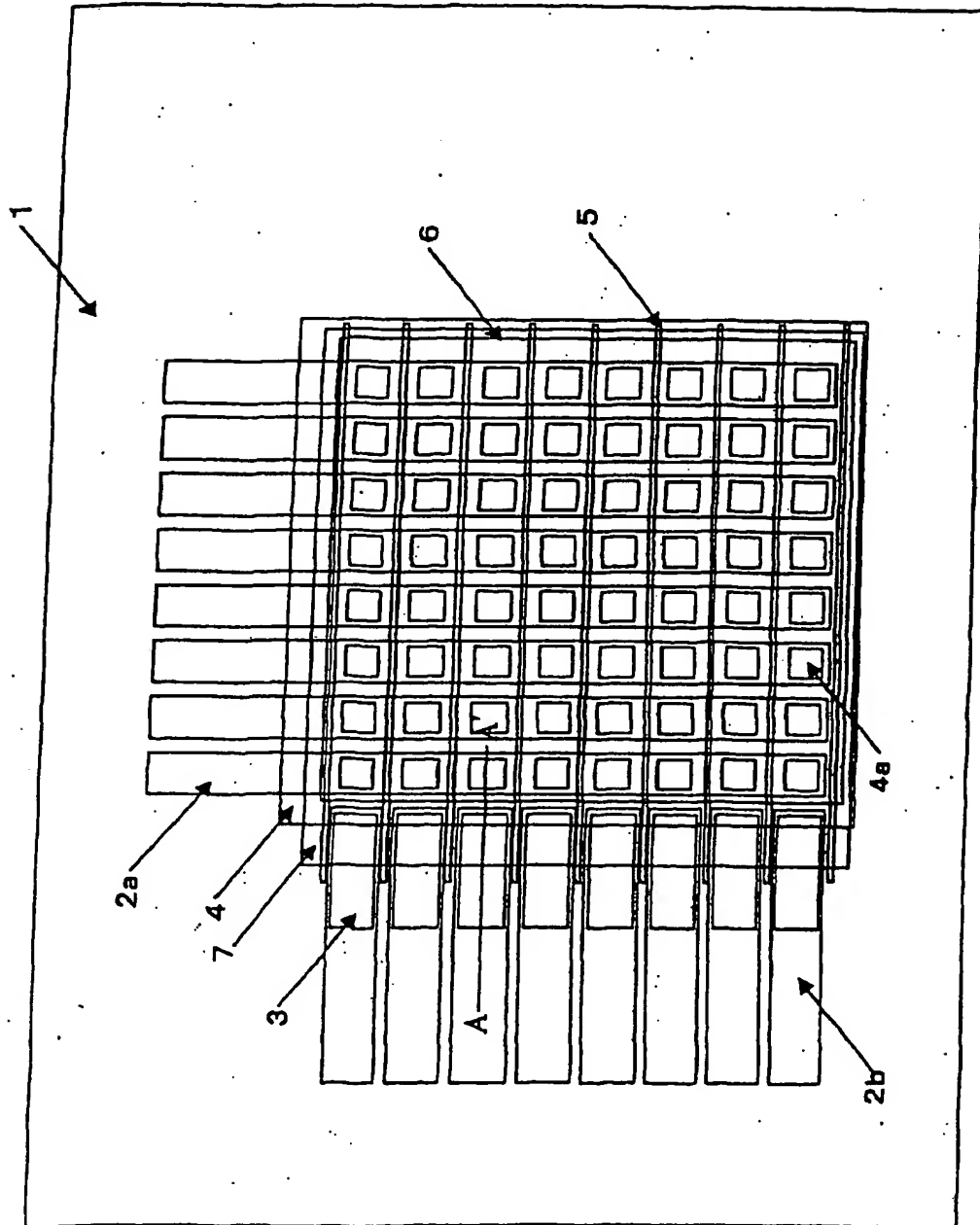
  
Vip Patel  
Primary Examiner  
AU 2879

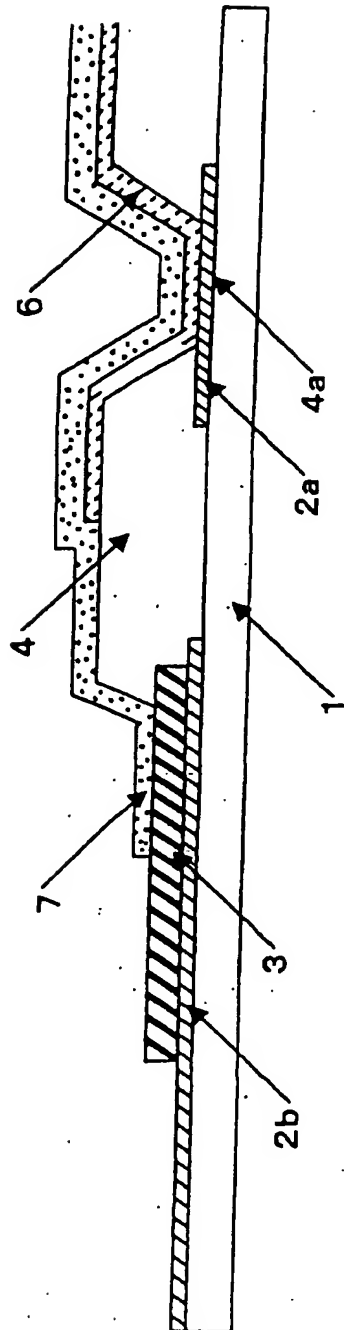


Fig. 1



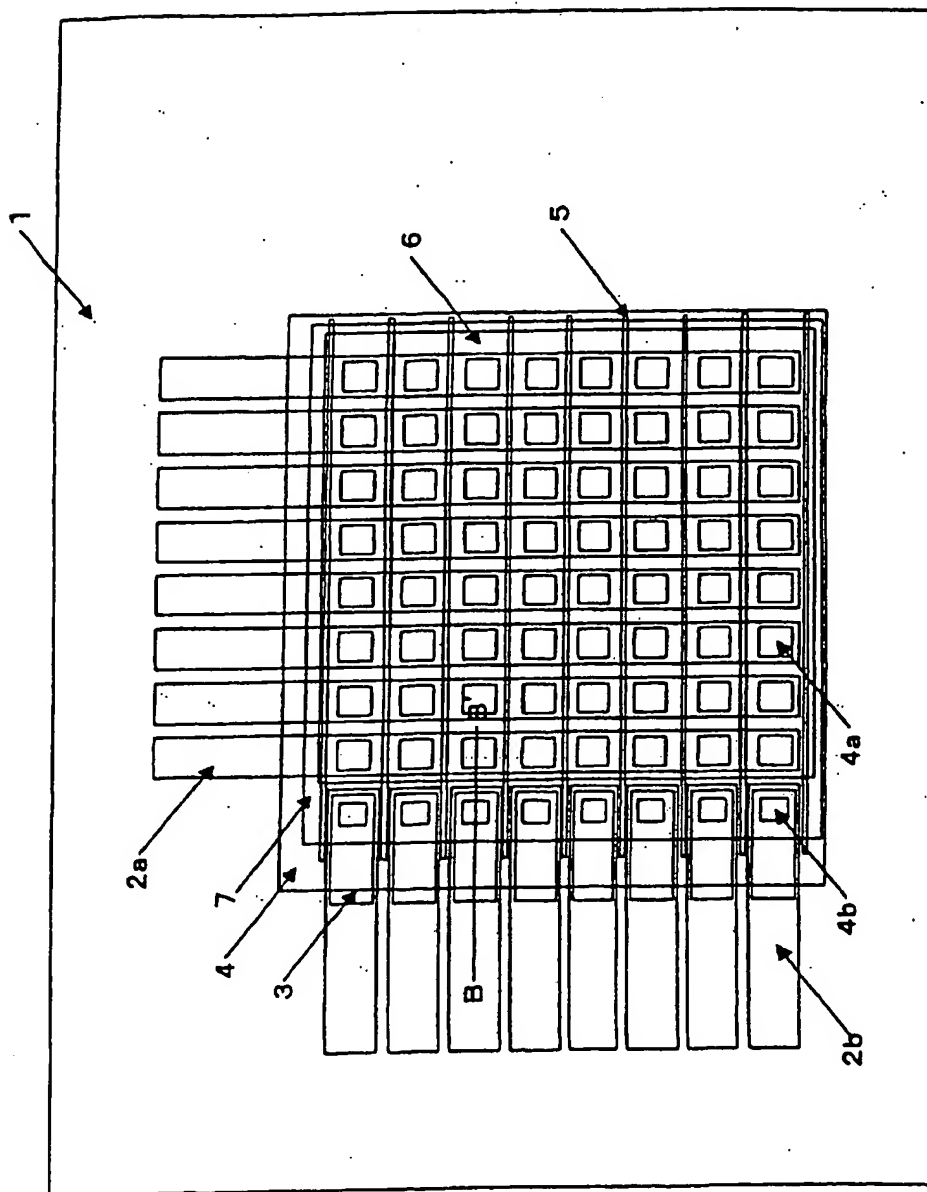
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6/14/05

Fig. 2



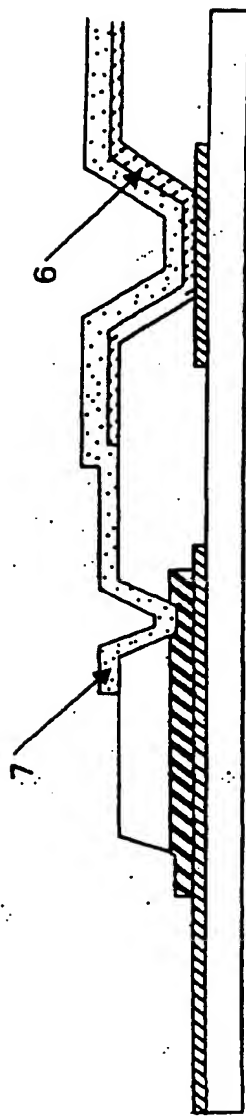
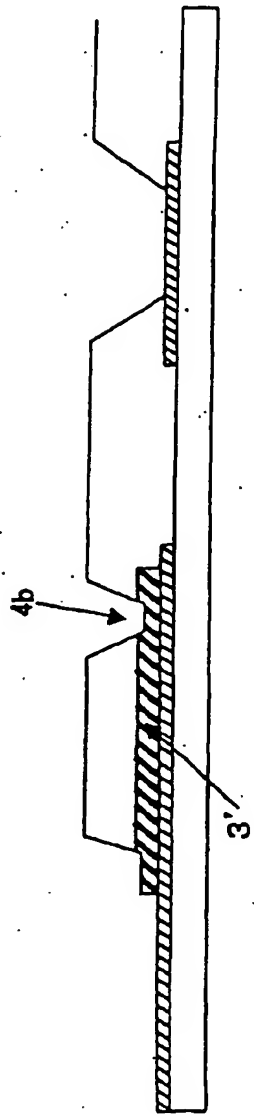
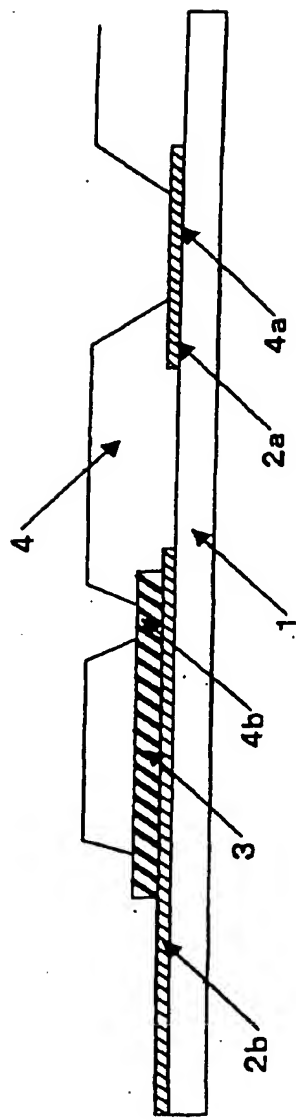
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6/11/05

Fig. 3



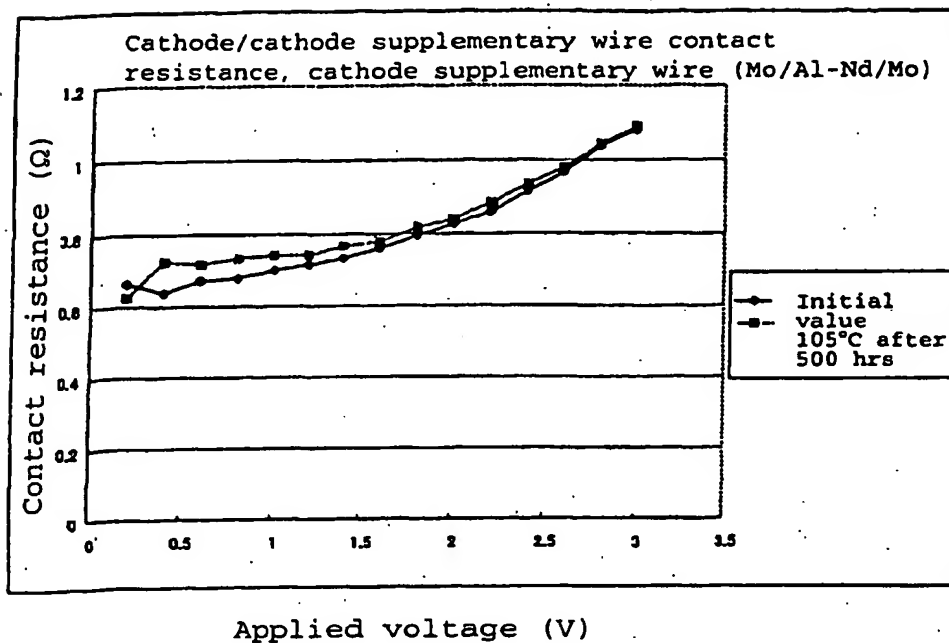
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Fig. 4



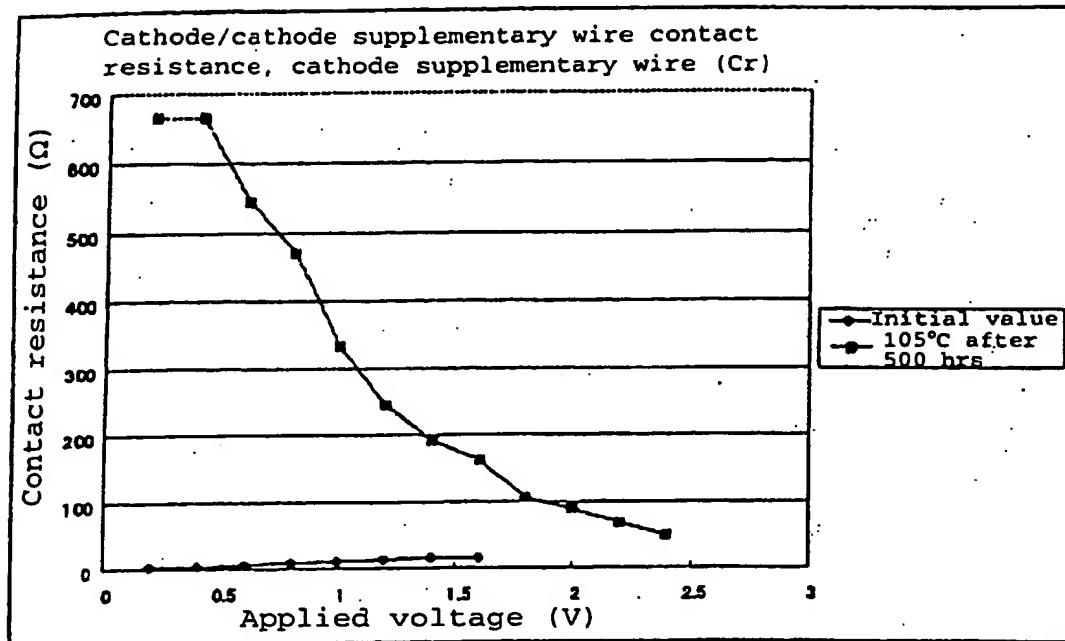
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Fig. 5



Approved *BB* 6/14/05

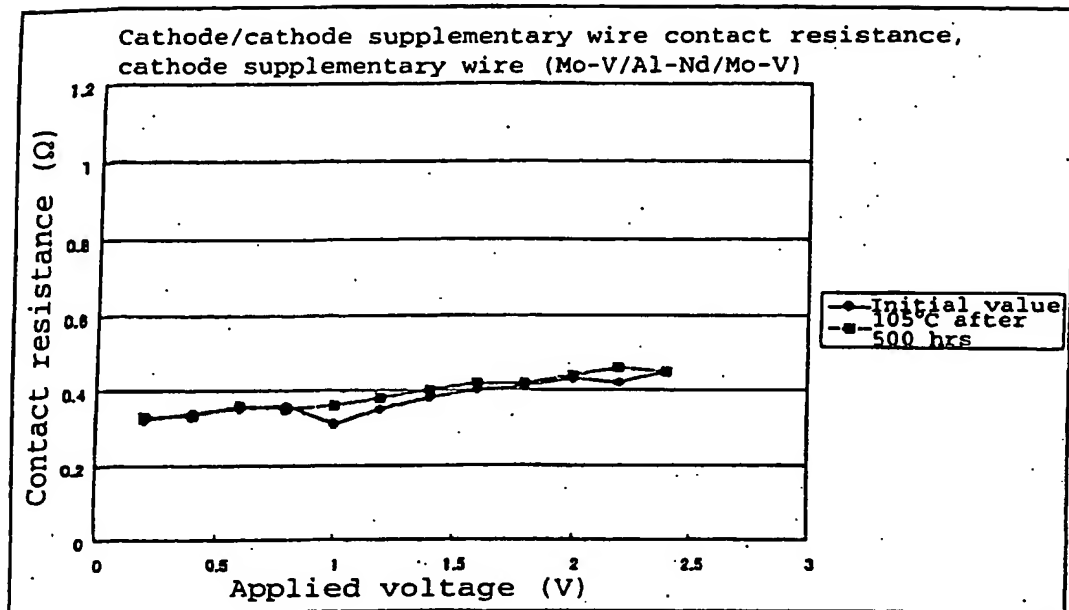
Fig. 6



Approved 103  
6/14/05

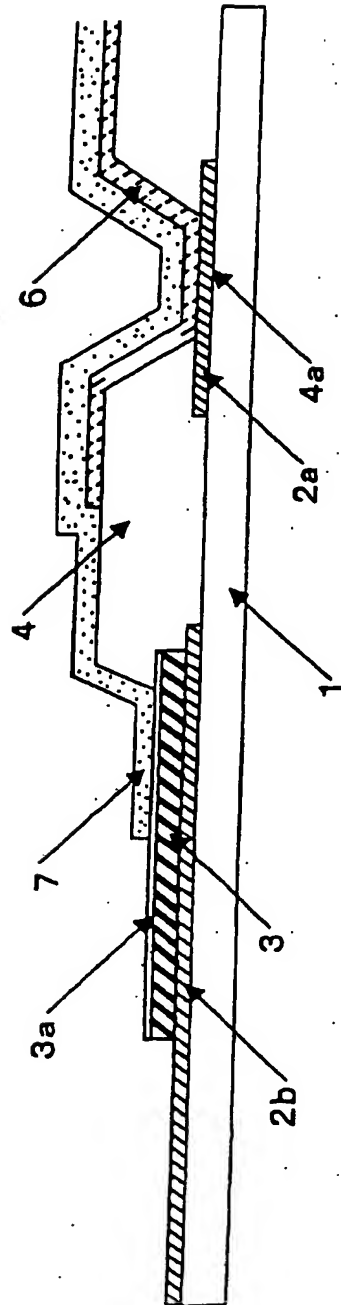


Fig. 7



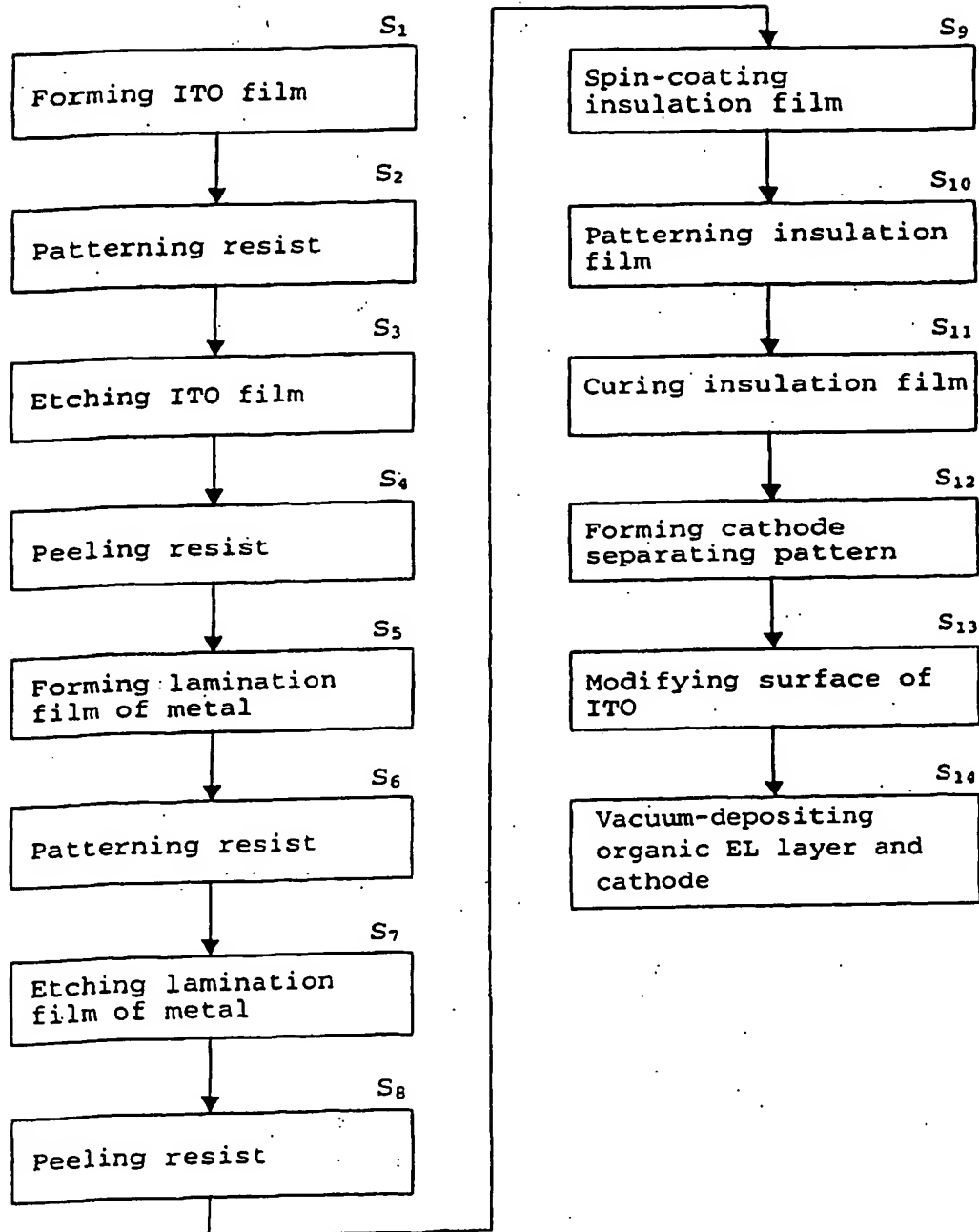
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**Fig. 8**  
RELATED ART



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6/14/05

Fig. 9



Approved by 6/14/05

Fig. 10

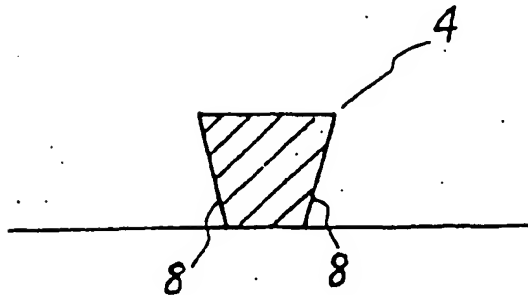
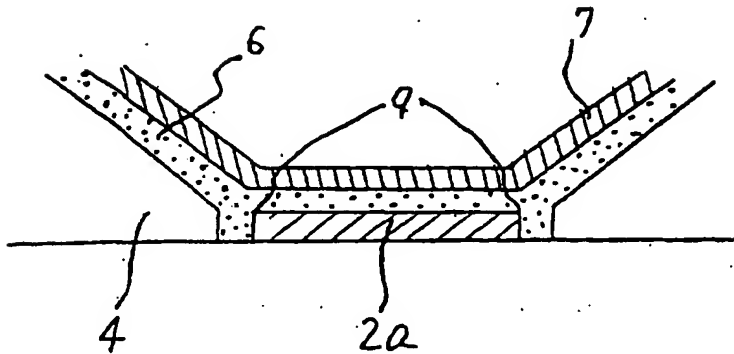
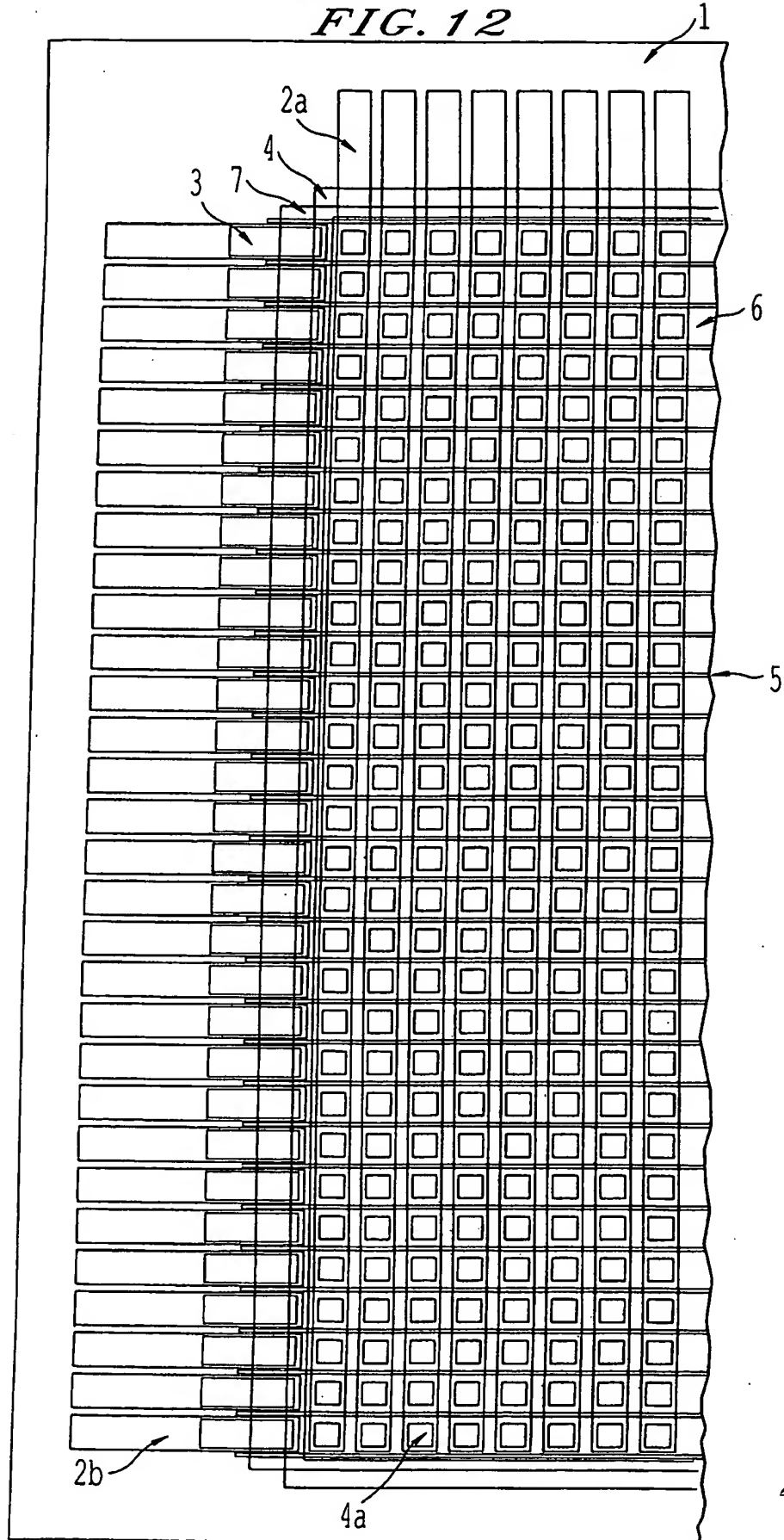


Fig. 11



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FIG. 12



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